

Resilient Industrial Control System (RICS): Concepts, Formulation, Metrics, and Insights

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Outline

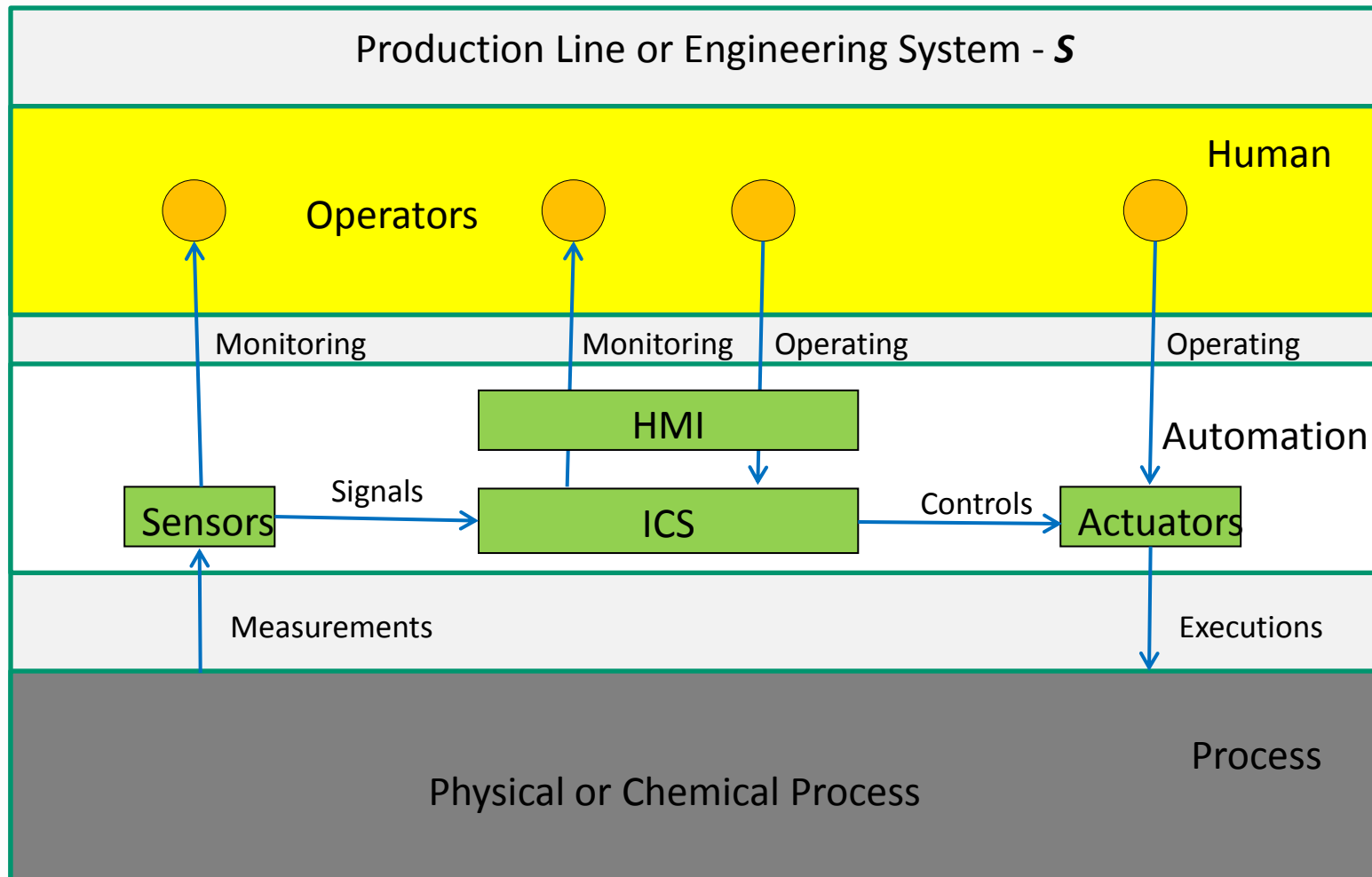
Concepts

Formulation

Metrics

Insights

Concepts



Concepts

A **resilient control system** is one that designed and operated in a way that:

- the incidence of undesirable incidents can be minimized;

- most of the undesirable incidents can be mitigated;

- the adverse impacts of undesirable incidents can be minimized, if these incidents cannot be mitigated completely;

- it can recover to normal operation in a short time.

Concepts

Flexibility

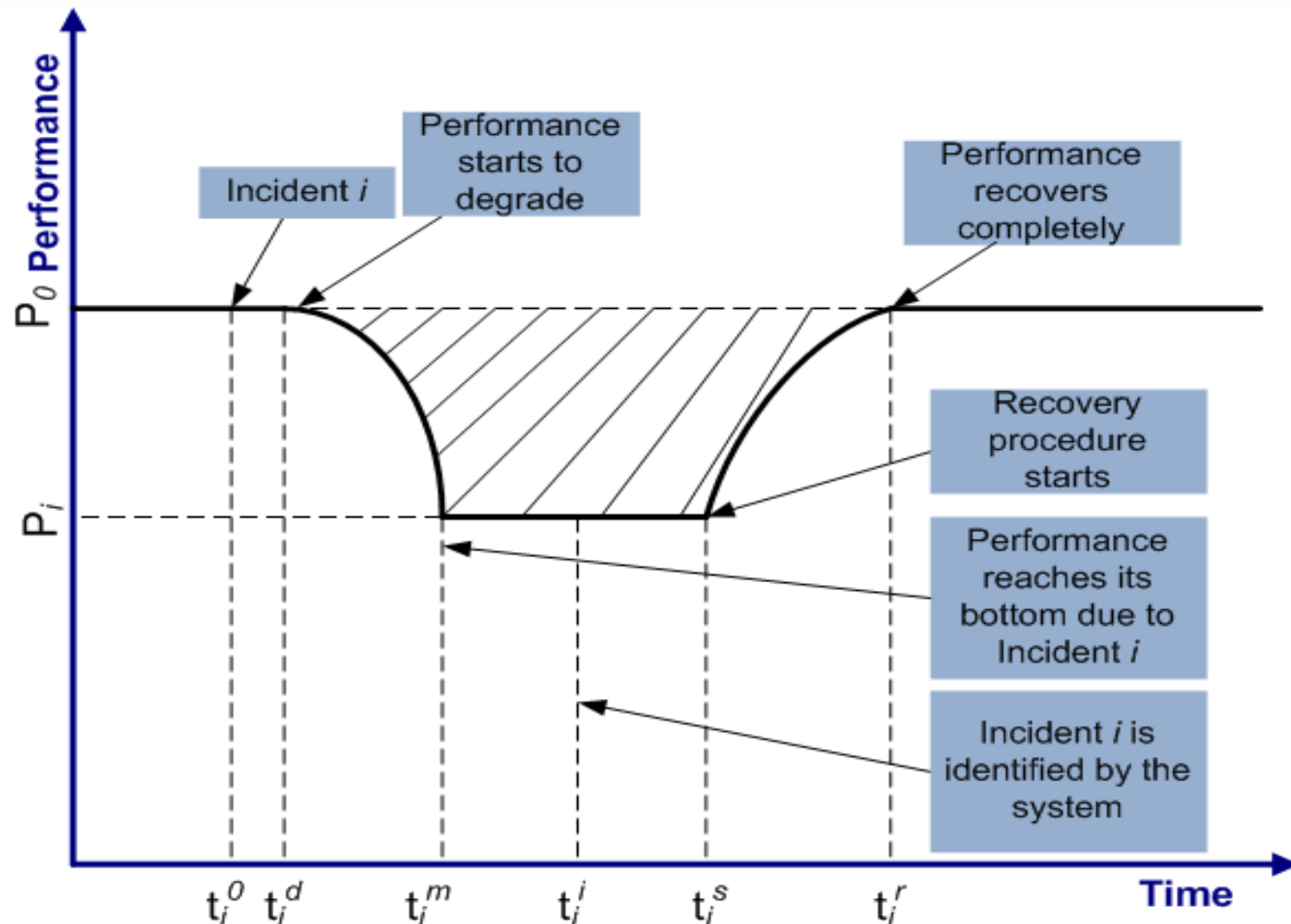
Robustness

Adaptiveness

Fault-tolerance

Survivability

Formulation



Metrics

protection time

performance degradation

degrading time

performance loss

identification time

total loss

recovery time

overall potential critical
loss

Resilience Enhancement Circle



Questions?